

REMARKS

This RCE is responsive to the Final Office Action dated June 6, 2002 in which the pending claims 1, 2 and 4-7 are rejected as being anticipated by Ella (U.S. Patent No. 5,910,756) under 35 U.S.C. §102(b), and claim 8 is rejected under 35 U.S.C. §112 because of a deficiency in the drawings, but is agreed to contain allowable subject matter. The applicants have amended claims 1 and 8 to better define the present invention, and have amended Figure 1 to overcome the deficiency in the drawings. The applicants have also reinstated previously cancelled claim 3, now presented as an added claim 13. Furthermore, the applicants have added claims 14-16 dependent to claim 8. The applicants respectfully traverse the rejections of the Examiner based on the above amendments and the following detailed explanations.

First, the Applicants believe a brief explanation of the present invention will be helpful in understanding the patentably distinct features of the claims. The present invention teaches a novel filter arrangement in which a bandpass filter and a notch filter are provided on the same substrate. Thus, the whole filter arrangement is compact in size. As defined in the amended claim 1, the notch filter and the bandpass filter are functionally independent of one another, namely, the bandpass filter works for generating a passband, while the notch filter works for producing a notch at one or both edges of the passband. Because the notch filter and the bandpass filter are functionally independent of one another, they can be more independently designed with less interference. The invention also teaches a novel technique in fabricating such a novel filter arrangement, which is defined in claim 8.

Such a novel filter arrangement is not disclosed in the cited Ella. Ella discloses a BAWR-SCF filter arrangement in which a notch is exhibited above the upper edge of the filter's

passband by series-connected BAW resonators, and a notch is exhibited below the lower edge of the filter's passband by parallel-connected BAW resonators (see, e.g., col. 15, lines 49-60 and col. 31, line 32 -- col. 32, line 9). Therefore, the BAW resonators not only work for generating the passband but also work for forming the notches at the edges of the passband. Throughout the embodiments in Ella, there is no teaching or implication to use a notch filter which is functionally independent of the bandpass filter for forming the notches, as defined in amended claim 1 of the present invention. The notches in Ella are all formed by the combination of BAW resonators which also work for generating the passband of the filter. Therefore, in Ella, the design of the BAW resonators circuit is much less independent of each other. Rather, a single filter must be designed that exhibits, notches and a passband, requiring a higher order filter.

Therefore, because the distinguishing feature of the claim 1 that the notch filter which is functionally independent of the bandpass filter is not disclosed in the filter arrangement in Ella, the applicants believe that the claim 1 is patentable. At least for the same reason, its dependent claims 2, 4-7 and 13 are also patentable. In particular, claim 2 recites the specific connections between the notch filter and the bandpass filter, which are not disclosed in the Ella patent since there is in fact no individual notch filter employed in the Ella patent.

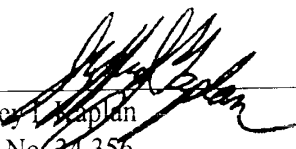
The applicants have amended Figure 1 to include a layer designated by "Si" to overcome the deficiency in the drawings. A proposed amendment to Figure 1 with the suggested amendment marked in red is enclosed for approval. The applicants have also amended claim 8 to better define the inventive fabrication method of the filter arrangement. With such amendments to Figure 1 and claim 8, the applicants believe claim 8 is now in good form to be allowed. Newly added claims 14-16, which are dependent from claim 8, and thus include all limitations of claim 8, are also patentable.

Accordingly, the applicants respectfully request reconsideration and allowance of the application based on the above amendments and remarks. The Examiner is authorized to deduct any fees believed due from Deposit Account No. 14-1270.

Respectfully submitted,

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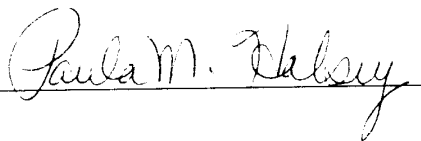
DATED: August 27, 2002


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CERTIFICATE OF MAILING

I hereby certify that this correspondence is being deposited with the United States Postal service as first class mail, in a postage prepaid envelope, addressed to Box RCE, Commissioner for Patents, Washington, D.C. 20231 on August 27, 2002.

Dated August 27, 2002 Signed



Print Name Paula M. Halsey



MARKED-UP VERSION OF AMENDED CLAIMS 1 AND 8

1. (Twice Amended) A filter arrangement which comprises a substrate (1) on which are provided a [thin-film] bandpass filter for generating a passband and a [thin-film] notch filter for producing a notch at one or both edges of said passband, which filters are coupled to one another and functionally independent of one another.
8. (Twice Amended) A method of manufacturing a filter arrangement, which comprises a substrate
- (1) and provided thereon a bandpass filter of bulk acoustic wave resonators and a notch filter, by which method
- a second electrode (5), a piezoelectric layer (4), and a first electrode (3) are provided on [a passivating layer formed on] a carrier layer and are structured such that at least one resonator unit, a capacitor, and an inductance are created,
 - a reflection element (2) is deposited on those portions of the first electrode (3) which belong to the resonator unit,
 - a substrate (1) is fastened on the entire assembly, and the carrier layer is removed.